



Research Brief

A SUMMARY OF A RESEARCH ARTICLE

National Survey of Sensory Features in Children with ASD: Sensory Patterns Measured by the Sensory Experiences Questionnaire (3.0)

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Sensory features are highly prevalent in children with autism spectrum disorder (ASD) and can interfere with their daily life activities. The four patterns of sensory features considered in this study were hyperresponsiveness (behavioral over-reactivity to stimuli), hyporesponsiveness (behavioral under-reactivity to stimuli), sensory interests and repetitions (fascination with/craving certain stimuli), and enhanced perception (ability to detect seemingly minimal sensory changes in the environment). These patterns in children with ASD are not well-defined in terms of their presentation or their occurrence with other autistic symptoms.

This research study aimed to describe and examine the patterns of sensory features in children with ASD by using the Sensory Experiences Questionnaire (SEQ; 3.0). The SEQ is a caregiver survey developed to measure the behavioral responses of children to sensory experiences across modalities (auditory, visual, touch, taste/smell, and vestibular/ proprioceptive) and social and nonsocial contexts.

Using a national online survey, the researchers surveyed over 1300 caregivers of children ages 2 to 12 years with ASD.

A statistical procedure called a confirmatory factor analysis was used to test the conceptual model of the four primary sensory response patterns (i.e., hyperresponsiveness, hyporesponsiveness, sensory interests & repetitions, and enhanced perception).

Sample SEQ Questions:

- How often does your child seem bothered by everyday sounds (such as a dishwasher, car radio, mixer/blender) that are not bothersome to others?
- How often does your child ignore you or not notice when you tap him/her on the shoulder?
- How often does your child seem fascinated with or excited by flickering or scrolling motions on a computer screen or TV?
- How often does your child notice smells before other people do (such as perfume, smoke, or food)?

The results confirmed the existence of the four sensory patterns in children with autism. Additionally, the sensory patterns were correlated at different levels. For example, hyperresponsive and enhanced perception were the most closely related and hyporesponsive and enhanced perception were the least related.

The sensory patterns were also significantly related to autism severity measured by the Social Responsiveness Scale. In general, for three of the patterns (i.e., hyperresponsiveness; hyporesponsiveness; sensory interests & repetitions), the more of the sensory features a child had, the more severe their autism symptoms were likely to be. However, for the pattern of enhanced perception, the more enhanced perception features a child had, the less severe the autism symptoms were likely to be.

The authors also found different amounts of the four sensory patterns for children with autism, Aspergers, and PDD-NOS.

Children with Aspergers had higher hyperresponsiveness and enhanced perception scores with lower scores for sensory interests and repetitions and hyporesponsiveness. Children with autism had higher hyporesponsiveness and seeking scores and lower hyperresponsiveness and enhanced perception scores. Children with PDD-NOS have lower sensory scores on all the patterns.

In conclusion, the study was able to confirm the existence of the four sensory patterns (i.e., hyperresponsiveness, hyporesponsiveness, sensory interests & repetitions, and enhanced perception) in a large, geographically distributed sample of children with ASD. The sensory patterns are correlated with each other and are also related to autism severity. Future directions of the study will include examining the relationship between the sensory patterns to child participation as well as functional and developmental outcomes.

- This research brief was based on the following article in preparation: Ausderau, K., Sideris, J., Little, L., Furlong, M., Bulluck, J.C., & Baranek, G. T. The Sensory Experiences Questionnaire 3.0: Factor Structure and Psychometric Properties.
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- For more information about the Sensory Experiences Project please visit our website: <http://www.med.unc.edu/sep>